

Eos cardinalis, Bonap. Compt. Rend. 1857; G. R. Gray, List Spec. Brit. Mus. Psittac. (1859) p. 53.

Eos unicolor, part., Wall. P. Z. S. 1864, p. 291.

Eos cardinalis, G. R. Gray, B. of Trop. Isl. p. 31.

Domicella cardinalis, Finsch, Papageien, ii. (1868) p. 785.

Head and nape deep crimson, the under parts of the same colour but lighter, and each feather pale orange-yellow-margined at the end, giving a somewhat undulated appearance; the under tail-coverts uniform crimson; back and other upper parts purplish brownish red, darkest on the shoulders and quill-coverts, lighter and more crimson on the rump and upper tail-coverts; on the mantle some feathers with narrow obsolete yellow margins; primaries on the outer web reddish brown, with olive-yellow lustre in certain lights; on the inner web dark reddish brown; secondaries brownish red, like the back, the tail-feathers also; quills and tail-feathers beneath brownish red, in some light shining red.

Bill orange; cere, a naked ring round the mandible, and the considerably extended naked orbits black; legs and claws blackish.

Long. corp. $11\frac{1}{2}$ " , al. 6" 4" , rectr. intern. 5" 5" , rectr. ext. 3" , culm. 9" , alt. rost. ad basin 9" , tars. 9" (French meas.).

Hab. Solomon Islands.

3. Notes on the Species of the Genus *Asturina*. By P. L. SCLATER, M.A., Ph.D., F.R.S., and OSBERT SALVIN, M.A., F.L.S.

Recent investigations having convinced us that there is still much confusion amongst the American species of Hawks of the genus *Asturina*, we beg leave to submit to the Society the following notes upon the subject.

The genus *Asturina*, founded by Vieillot in 1816 upon his *Asturina cinerea* (*Falco nitidus*, Lath.), embraces a small series of American birds closely resembling *Buteo* in structure, but in habits more nearly approaching *Accipiter*. The most noticeable difference between *Asturina* and *Buteo* consists in the shorter wings of the former; but in this respect *Buteo pennsylvanicus* (which has the habits of *Asturina*) is nearly intermediate between the two genera. Putting this bird aside for the present, we have left seven species of true *Asturina*, which may be separated into three groups, as follows:—

(1) The species allied to *A. nitida*, of which there appear to be two representative forms,—one occupying Central America and Mexico, which has been named *A. plagiata*; the other the true *A. nitida*, which, commencing its range at Panama, extends itself over the greater part of tropical South America.

(2) The species allied to *A. magnirostris*, which is the type of the genus *Rupornis* of Kaup. These are four in number, each

occupying a distinct area, as will be seen by reference to our notes below.

(3) The isolated species *A. leucorrhœa*, which appears to be a true *Asturina* in structure, but in plumage forcibly calls to mind the *Buteo brachyurus*, Vieill. The latter bird has likewise been referred by some authors to *Asturina*—but, from its lengthened wings, should, we think, be either placed with *Buteo* or stand by itself under the designation *Buteola*, proposed for it by Bonaparte from Du Bus's MS.

The subjoined table may, perhaps, assist in distinguishing the seven species in their adult dress:—

- A. Supra cineræ aut fuscæ: subtus plus minusve transfasciatæ.
- | | |
|---|--------------------------|
| a. rem. prim. pogoniis internis albis nigro transfasciatis: | |
| { supra transfasciata | 1. <i>nitida</i> . |
| { supra unicolor | 2. <i>plagiata</i> . |
| b. rem. prim. pogon. int. rufis nigro transfasciatis: | |
| a'. caudæ fasciis cinereis: | |
| { tibiis albis, cinereo transfasciatis..... | 3. <i>magnirostris</i> . |
| { tibiis fulvis rufo transfasciatis..... | 4. <i>nattereri</i> . |
| b'. caudæ fasciis rufis: | |
| { gula et pectore cinereis..... | 5. <i>ruficauda</i> . |
| { gula obscure fusca, pect. albicante | 6. <i>gularis</i> . |
| B. Supra et subtus unicolor nigra | 7. <i>leucorrhœa</i> . |

1. ASTURINA NITIDA.

Falco nitidus, Lath. Ind. Orn. i. p. 40.

Asturina cinerea, Vieill. Analyse, p. 68; N. D. iii. p. 41; E. M. p. 1260, et Gal. Ois. t. 20.

Falco striolatus, Max. Beitr. iii. p. 209; Temm. Pl. Col. 87 (ad.) et 294 (jr.).

Astur nitidus, D'Orb. Voy. Ois. p. 95; Burm. Syst. Ueb. ii. p. 68; Leotaud, Ois. Trin. p. 46.

Asturina nitida, Cab. in Schomb. Guian. iii. p. 737; Pelz. Orn. Bras. p. 3; Scl. et Salv. P. Z. S. 1864, p. 369, 1867, p. 589, 1868, p. 173; Lawr. Ann. L. N. Y. vii. p. 316; Scl. P. Z. S. 1860, p. 288.

Supra in fundo alba, dorso toto et alis extus grisescentioribus; schistacco frequenter transfasciata: gula alba. Junior, tibiis rufescentibus immaculatis.

Hab. Panama (*M'Cleannan*); Western Ecuador (*Fraser*); Bogota (*Mus. S.-G.*); Venezuela (*Goering*); Trinidad (*Leotaud*); Cayenne (*Buff.*); British Guiana (*Schomb.*); Lower Amazons (*Wallace*); Barra, Borba, Cuyaba et Araguay (*Natterer*); Wood-region of S.E. Brazil (*Max. et Burm.*).

This well-known species is, as will be seen from our list of localities, widely distributed in South America. The most northern point from which we have seen examples is the isthmus of Panama, where many specimens have been procured by M'Cleannan and Arcé. In Costa Rica the next species replaces it.

2. ASTURINA PLAGIATA.

Asturina nitida, Cassin, in Baird's Birds of N. Am. p. 35; Scl.

et Salv. Ibis, 1859, p. 217; Salvin, Ibis, 1861, p. 68; Scl. P. Z. S. 1857, pp. 201 et 227, 1859, pp. 368 et 389, 1864, p. 178; Lawr. A. N. Y. Lyc. ix. p. 133.

Asturina plagiata, Schl. Mus. d. P.-B. *Asturina*, p. 1; Scl. et Salv. P. Z. S. 1868, p. 173.

Supra schistacea fere unicolor: gula cinerea. Junior, tibiis albicantibus fusco transfasciatis.

Hab. Mexico, New Leon (*Couch*); Jalapa (*Sallé*); Vera Cruz (*Mus. Berol.*); Guatemala (*Salvin*); Costa Rica (*Arcé*).

This northern representative of *A. nitida* is easily distinguishable by the darker and uniform slaty plumage above in the adult bird. In *A. nitida* the feathers of the head and upper neck are white, with numerous narrow transverse bars of slaty grey. On the back and wings externally the ground-colour is ashy, but the darker transverse bars, though wider, are numerous and very conspicuous. In the present bird the transverse barring is wholly absent, leaving the upper surface nearly uniform, though traces of transverse markings are apparent in some places beneath on raising the feathers, and are also faintly visible on the wing-coverts in some specimens. The lower of the two white tail-bands is narrower in the present bird than in *A. nitida*, but the upper appears to be usually more strongly shown in *A. plagiata*.

The young plumage of the northern bird generally resembles that of the southern, but, as appears from the specimens we have met with, presents a constant difference in having the tibiæ distinctly marked by numerous cross bands. In the young of *A. nitida* the thighs are of a uniform ferruginous, more or less deep.

The most southern locality we have yet met with for this species is Costa Rica, whence Arcé transmitted a single immature specimen in 1864.

Dr. Peters having most kindly lent to us the type of *Buteo plagiatus*, Licht., upon which Schlegel established his *Asturina plagiata*, we have been enabled to ascertain without doubt that it is the young of the present species.

3. ASTURINA MAGNIROSTRIS.

L'épervier à gros bec de Cayenne, Buff. Pl. Enl. 464.

Falco magnirostris, Gm. S. N. i. p. 282.

Nisus magnirostris, Tsch. F. P. *Aves*, p. 104.

Rupornis magnirostris, Cab. in Schomb. Guian. iii. p. 737.

Asturina magnirostris, Sclater, P. Z. S. 1857, p. 261, 1858, p. 451, 1859, p. 147, 1860, p. 288; Scl. et Salv. P. Z. S. 1866, p. 198, 1867, pp. 589, 753.

Astur macrorhynchus, Pelz. Orn. Bras. p. 6.

Falco insectivorus, Spix, Av. Bras. i. p. 17, t. 8^a (partim).

Supra clare cinerea: subtus gula et pectore cinereis; ventre toto cum tibiis albo et rufescente cinereo frequenter transfasciatis.

Hab. Cayenne (*Buffon*); Brit. Guiana (*Schomb.*); Rio Negro, Rio Branco, and Rio Madcira (*Natterer*); Venezuela (*Goering*);

Mexiana (*Wallace*); Eastern Peru (*Bartlett et Tschudi*); New Granada, Bogota (*Mus. S.-G.*); Western Ecuador (*Fraser*).

The first and, indeed, only author who has appreciated the distinction between the present species and its Brazilian representative is von Pelzel, who, in his 'Ornithologie Brasiliens,' considers the latter the true *Astur magnirostris*, and calls the present bird *Astur macrorhynchus* from Natterer's MS. Of this being the case we are enabled to speak with some confidence, as one of Natterer's marked specimens from San Carlos on the Rio Negro, in the collection of Salvin and Godman, is undoubtedly referable to this species. But Gmelin's *Falco magnirostris* is based entirely upon Buffon's *Epervier à gros bec de Cayenne* (Pl. Enl. 464). This figure, leaving the locality out of the question, clearly represents the northern species, which must therefore retain the name *Asturina magnirostris*.

Comparing a considerable series of specimens of these two allies together, we cannot but fully agree to von Pelzel's separation of them. The present bird may be readily distinguished from the next species by the cinereous colour below, slight indications of rufescent tinge being only seen upon the darker bands of the belly and thighs. In *A. nattereri* the throat is darker cinereous and distinctly striped with white longitudinally; the breast is rich rufous in very adult birds, almost without cross markings; the belly is very pale fulvous or almost cream-colour, with numerous cross bands of deep ferruginous; the thighs are covered by minute cross bands of the same colour. In *A. magnirostris* the thighs are pure white, cross-banded with pale cinereous with merely a slight rufescent tinge.

4. ASTURINA NATTERERI.

Falco magnirostris, Max. Beitr. iii. p. 102; Temm. Pl. Col. 86 (avis jr.).

Astur magnirostris, Pelz. Orn. Bras. p. 6.

Nisus magnirostris, Burm. Syst. Ueb. ii. p. 76.

Falco magnirostris, Spix, Av. Bras. i. p. 18 (partim).

Supra brunnescenti-cinerea; subtus gula cinerea albo striata: pectore ferrugineo: ventre toto cum tibiis ferrugineo-rufis pallido fulvo transfasciatis: cauda nigricante, cinereo trivittata et terminata.

Hab. South-eastern Brazil (*Max. et Burmeister*); Bahia (*Wucherer*); S. Paulo et Mattogrosso (*Natterer*).

As will be seen from von Pelzel's list, Natterer collected a large number of this species in various parts of Southern and Inner Brazil; but the specimens referred to as obtained by him at Barra do Rio Negro are more probably referable to the true *A. magnirostris*. An excellent series of examples of this Hawk, collected in the vicinity of Bahia, has lately been received by Salvin from Dr. Wucherer. We have also to thank the authorities of the Norfolk and Norwich Museum for the loan of many specimens of this and the preceding species from their fine collection of Rapacious birds.

Having already explained why the name *magnirostris*, which has

always been applied to this bird, must be restricted to the preceding species, we propose to call it after the naturalist who first appreciated the differences between them.

5. *ASTURINA RUFICAUDA*, sp. n.

Asturina magnirostris, Sclater, P. Z. S. 1856, p. 285, 1859, p. 368, 1864, p. 178.

Asturina magnirostris, Scl. et Salv. Ibis, 1859, p. 217; Lawr. Ann. L. N. Y. vii. p. 316, viii. p. 178; Moore, P. Z. S. 1859, p. 52.

Supra obscure cinerea: subtus gula et pectore obscure cinereis: ventre toto cum tibiis ferrugineo et pallido fulvo frequenter transfasciatis: cauda nigra, ferrugineo trivittata et terminata.

Hab. Cordova (Sallé); Jalapa (De Oca); Mexico city (White); Omoa (Leyland); Guatemala (Salvin); Veragua (Arcé); David (Hicks).

As in the case of *A. nitida*, the northern representative of the present group of *Asturinae* appears in its adult dress to be readily distinguishable from the southern forms, and to require specific separation. From *A. magnirostris* and *A. nattereri* it differs in the deep-red tail-bands, the corresponding colour in the two last-mentioned species being pale cinereous. In younger specimens of *A. ruficauda* these bands are likewise cinereous, but in nearly every case show traces of rufescent colouring beginning to appear. In the general colour of its under plumage *A. ruficauda* more nearly resembles *A. nattereri* than *A. magnirostris*, having the belly, flanks, and thighs of the same rich ferruginous tinge which distinguishes *A. nattereri*; but in the present bird the throat and chest are usually of a pale cinereous, thus more resembling *A. magnirostris*.

We have examined a great number of specimens of this bird from various parts of Southern Mexico and Central America. In Guatemala, where it is one of the commonest species of Hawk, Salvin obtained examples from the plains of Zacapa, the Pacific coast-region, the valley of the river Polochic, Choctum in the forest-region of Vera Paz, and the savannas of the district of Peten. We have also received specimens from Costa Rica, Veragua, and Panama, besides the Mexican series obtained by Sallé and his coadjutors.

Asturina ruficauda, though thus widely distributed, is not found in the elevated mountain districts, but frequents the lowland plains up to an elevation of about 2500 feet above the sea-level. Its food in Guatemala consists almost entirely of small snakes and lizards.

6. *ASTURINA PUCHERANI*.

Esparvero indayé, Azara, Apunt. i. p. 131. no. 30.

Astur magnirostris, Hartl. Ind. Azara, p. 2; D'Orb. Voy. Ois. p. 91.

Nisus magnirostris, Burm. P. Z. S. 1868, p. 623.

Asturina pucherani, J. et E. Verreaux, R. Z. 1855, p. 350.

Falco gularis, Licht. in Mus. Berol.

Rupornis gularis, Licht. Nomencl. p. 3.

Asturina gularis, Schlegel, Mus. des P.-B. *Asturinae*, p. 4 (1862).

Supra obscure fusca: capite toto cum gutture obscurioribus: pectore et ventre toto cum tibiis pallide fulvis, lineis angustis ferrugineis parce transfasciatis: cauda nigricante, rufo late trivittata et terminata.

Hab. Buenos Ayres (*Schlegel*); Corrientes (*D'Orb.*); Paraguay (*Azara*); Bolivia (*Bridges*); prov. Yungas (*D'Orb.*).

In speaking of his so-called *Astur magnirostris*, *D'Orbiguy* (*l. s. c.*) calls especial attention to the differences between his series of this bird from Corrientes and Bolivia and that in the Paris Museum from Brazil, and concludes that they form "two distinct and constant varieties." We have little doubt that it is to this so-called variety that *Lichtenstein* applied the name *gularis*, afterwards adopted by *Schlegel* in his 'Musée des Pays-Bas.'

But this term must, we think, give way to that of *pucherani*, under which the *MM. Verreaux* described a species of *Asturina* in 1855. A mounted specimen belonging to the Norwich Museum is marked as the original of this description in the handwriting of *M. Jules Verreaux*, and perfectly accords with the characters given. We believe we are correct in referring it to the immature dress of the present species. A nearly similar specimen is in the British Museum, also received from *Verreaux*, under the name *Asturina pucherani*, but with "Guatemala" attached as a locality. This is probably an error, as it does not correspond with any one of our extensive series of the Central-American form, which is *A. ruficauda*.

The only adult example we have yet seen of this bird is in the British Museum. It was obtained in Bolivia by *Bridges*.

7. ASTURINA LEUCORRHOA.

Falco leucorrhous, Q. et G. Voy. Uranie, Zool. p. 91, t. 13.

Nisus leucorrhous, Tsch. F. P. *Aves*, pp. 18, 103.

Asturina leucorrhoea, Bp. Consp. p. 50; *Kaup*, Isis, 1847, p. 199; *Schlegel*, Mus. des P.-B. *Asturinae*, p. 5.

Astur leucorrhous, Pelz. Orn. Bras. p. 7.

Nigra: tectricibus caudalibus supra et subtus albis: tibiis rufis: cauda ad basin alba, inde nigra albo bifasciata.

Hab. Brazil, vic. of Rio (*Mus. Vindob. et S.-G.*); Venezuela (*Dyson in Mus. Brit., et Levaud in Mus. Paris.*); New Granada, Bogota (*Mus. S.-G.*); Peru (*Mus. Berol.*).

4. On the Hybrid between the Chamois and the Domestic Goat. By EDWARD BLYTH.

Upon a recent occasion (*cf. P. Z. S.* 1868, p. 623) I exhibited four pairs of horns which puzzled me exceedingly at first, but which I learn from *Mr. Joseph Wolf* are those of hybrids raised from the